



Open Source Software

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For more information regarding how to access software from Los Alamos, contact the [Software Team](#).

- [brulilo, Version 0.x](#) brulilo is a Python package for building and evolving thermonuclear reaction networks.
- [Byfl: Compiler-based Application Analysis](#) Byfl is a productivity tool that helps computational scientists analyze their code for accelerator-friendly and accelerator-unfriendly constructs.
- [CLAMR \(Compute Language Adaptive Mesh Refinement\)](#) CLAMR is being developed as a DOE mini-app, one of several applications being developed to help prepare for the Exascale class of heterogeneous hardware platforms.
- [CODY: Continuum Dynamics Evaluation and Test Suite](#) CODY is a development framework and suite of small applications, or "mini-apps", characteristic of continuum dynamics applications that will be used for research in new programming models, software environments, and the evaluation of new computer architectures.
- [coNCePTuaL -- A Network Correctness and Performance Testing Language](#) coNCePTuaL is a tool designed to facilitate rapidly generating programs that measure the performance and/or test the correctness of networks and network protocol layers
- [db, Version 0.2.x](#) A set of programs and utilities for generating and manipulating data files in TSV (tab-separated value) or JSON format.
- [Genome Majority Vote](#) The pipeline runs PRODIGAL gene predictions on all genomes, runs pan-reciprocal BLAST, and identifies ortholog sets.
- [HASH v.1.x](#) Described in the journal article and presentations, "Hash-Based Algorithms for Discretized Data," hash algorithms are to be distributed for starting points for optimization efforts.
- [HASH v.2.x](#) Enhancements to hash version 1.x, with compact hash techniques and described in the journal article, "Compact Hash Algorithms for Computational Meshes."
- [HILO: Quasi Diffusion Accelerated Monte Carlo on Hybrid Architectures](#) The Boltzmann transport equation provides high fidelity simulation of a diverse range of kinetic systems. We present a novel algorithm, Quasi-Diffusion Accelerated Monte Carlo (QDA-MC), which improves performance on heterogeneous CPU/GPU architectures.
- [LANL Go Suite](#) The LANL Go Suite is a collection of packages, libraries, utilities, and software patches related to Google's Go programming language. The LANL Go Suite largely takes a high-performance computing angle to Go.
- [Libparty, Version 1.x](#) General particle library designed to run on next-generation hardware such as MICs and GPUs
- [Model Analysis ToolKit \(MATK\), Version 0](#) MATK provides basic functionality to facilitate model analysis within the Python computational environment.

- [McPhD](#)McPhD is a research code designed to explore the applications of the Haskell programming language to Monte Carlo algorithms.
- [MeGAMerge, Version 1.0](#)A novel method of merging of multiple genomic assembly or long read data sources for assembly.
- [mFUSE: Function Sequencer for MATLAB, Version 0.1.00](#)mFUSE: Function Sequencer for MATLAB is a Java based graphical user interface for use with MATLAB.
- [Multi-Dimensional Hashed Indexed Metadata \(MDHIM\) System](#)The MDHIM software is a revolutionary new software tool that performs more than a billion key/value inserts per second into a globally ordered key space.
- [NuT](#)NuT is a Monte Carlo neutrino transport code for astrophysics simulations.
- [PENNANT](#)PENNANT is a mini-app intended for use in advanced architecture research.
- [PISTON \(Portable Data Parallel Visualization and Analysis\)](#)A Portable Cross-Platform Data-Parallel Visualization and Analysis Library
- [POSTMAX, Version 2.0](#)POSTMAX is a small program developed to statistically analyze MACCS2 output to determine a 95th percentile value for atmospheric dispersion (x/Q) as a function of weather data and site boundary distance.
- [PROSIG, Version 1.x](#)PROSIG designs nucleic acid-based assays that detect specified target sequences and do not detect specific non-target sequences.
- [PyFEHM](#)PyFEHM is a set of Python libraries designed to be used with the LANL simulation code FEHM.
- [PyVXI-11, Version 1.0](#)PyVXI-11 is a Python extension to interface with electronics laboratory equipment such as oscilloscopes, network and spectrum analyzers, multimeters, etc., using the standard SCPI language and TCP/IP.
- [ramdisk, Version 0.x](#)The intent of the software is eventually to become a middleware library to provide a cross platform interface for creating and managing a ramdisk.
- [Seismoacoustic Software](#)Addressing local and regional-scale seismological and infrasound problems through a combination of theory, data analysis and field deployments in support of United States treaty/explosion monitoring.
- [SHMTools](#)SHMTools is a MATLAB package that facilitates the construction of structural health monitoring (SHM) processes.
- [SNAP:SN \(Discrete Ordinates\) Application Proxy](#)SNAP serves as a proxy application to model the performance of a modern discrete ordinates neutral particle transport application.
- [STONIX, Version 0.x](#)STONIX is a program for configuring UNIX and Linux computer operating systems.
- [ThermonucleotideBLAST](#)ThermonucleotideBLAST is a software program for searching a target database of nucleic acid sequences using an assay specific query.
- [tsk_get_files](#)tsk_get_files is a script that uses "The Sleuth Kit" commands "fls" and "icat" to rebuild a file structure from a disk image.
- [Total-Variation Regularized Numerical Differentiation \(TVDiff\), Version 1.0](#)This code computes the derivative of a function specified by noisy data using regularization to suppress noise amplification.
- [Two Sample T-Test for Comparing Genetic Sequence Diversity](#)Given two samples of sequences the program performs a t-test to see whether the two mean genetic distances are significantly different.
- [Zenoss](#)The HPC monitoring project goal was to extend upon the Zenoss core produce to provide large scale system monitoring, data collection and reporting, and root cause isolation for high-performance computers and isolated infrastructure.

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